

Appl. No. 10/758,435
Resp./Amdt. dated Feb. 17, 2006
Reply to Office Action of 12/01/2005

REMARKS/ARGUMENTS

There are no amendments to the specification, drawings or claims herein.

Claims 1-35 remain and are pending in the application. Claims 1-24, 27-30, 32, 33 and 34 are rejected and Claims 25, 26, 31 and 35 are objected to. Reconsideration is respectfully requested.

The Examiner provisionally rejected Claims 1, 3-7, 10, 12-18, 20-24, 27, 28 and 32-34 under 35 U.S.C. 101 as claiming the same invention as that of Claims 1-13, 15-20, 24, 25 and 28-30 of copending Application No. 10/368,179 (hereinafter 'Copending Application'). With the exception of adding Claim 28 of the present application and Claim 25 of the Copending Application, the provisional rejection is the same as in a previous Office Action mailed June 22, 2005 (hereinafter 'Previous Action').

Applicant respectfully traverses the rejection on the grounds that the instant application does not claim the "same invention" (i.e., identical subject matter) as is claimed in the Copending Application. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1984); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957). Applicant similarly traversed the rejection of Claims 1, 3-7, 10, 12-18, 20-24, 27 and 32-34 under 35 U.S.C. 101 from the Previous Action on the same grounds in a previous Response/Amendment filed September 15, 2005 (hereinafter 'Previous Response').

In particular, in the Previous Response Applicant respectfully reminded the Examiner that in rejecting a claim under 35 U.S.C. 101 as claiming the same invention (i.e., 'same-invention double patenting'), the rejected claims in the instant application **must** define identical subject matter to that in corresponding claims in the Copending Application. See MPEP, Section 804 (II)(A), *Statutory Double Patenting – 35 U.S.C. 101*. Applicant argued that the rejected claims in the instant application either recite explicitly a multiport vector network analyzer **having more than two ports** or recite a multiport vector network analyzer which is **explicitly** defined by Applicant's specification to be a vector network analyzer (VNA) or VNA system "having more than two test ports" (See Applicant's specification, Page 5, line 31 to Page 6, line 8). The corresponding claims of the Copending Application recite a "vector network analyzer" and thus define subject matter that includes a one-port

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network analyzer in some embodiments, and a two-port network analyzer in some embodiments, ***both of which do not and cannot 'have more than two ports'***. Clearly, identical subject matter is not defined by both the claims of the instant application and those of the Copending Application. MPEP, Section 804 (II)(A), cited *supra*.

In a Response to Argument section of the present Office Action, the Examiner contended that Applicant's arguments, "have been fully considered but they are not persuasive because claims 1, 18 and 24 are not limited to 'more than two test ports' so multi-port still reads on two ports".

Applicant is dismayed and utterly mystified by the Examiner's conclusion, "multi-port still reads on two ports". In particular, Applicant cannot understand how a claim explicitly reciting "a multiport vector network analyzer having ***more*** than two ports" is not limited to having more than two test ports (see Claims 18 and 24). Moreover, Applicant clearly defined the term "multiport" in the instant application at page 5, line 31 to Page 6, line 8 to mean "more than two test ports". As such, Applicant cannot understand how a claim reciting "a multiport vector network analyzer" defined in the specification as having ***more*** than two ports is not limited to having more than two test ports (see Claim 1). Thus, the Examiner's contention that the claims rejected under 35 U.S.C. 101 are not limited to more than two test ports is respectfully baseless.

Furthermore, the issue at hand regarding statutory double patenting is whether or not a claim in the instant application and a corresponding claim in the Copending Application define ***identical subject matter***. Applicant explained with examples and citation of relevant passages from the instant application and the Copending Application that ***identical subject matter is not and cannot be claimed*** in both applications. The skilled artisan would understand that the "vector network analyzer" recited in claims of the Copending Application clearly reads on a VNA having ***only*** two ports. Moreover, based on the Examiner's contention in the present Office Action, the Examiner appears to agree. The claims in the instant application are limited to "more than two ports". By convention in the English language, the phrase "more than two" includes three or more but does not and cannot include or otherwise be construed to mean "two". In other words, the phrase "more than two" is ***mutually exclusive*** with the term 'two'. As such, the subject matter defined by the claims of the instant application and those of the Copending Application simply cannot define

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identical subject matter. The rejection of Claims 1, 3-7, 10, 12-18, 20-24, 27, 28 and 32-34 under 35 U.S.C. 101 is improper and unsupported and must be withdrawn.

The Examiner rejected Claims 1 and 18 under 35 U.S.C. 102(b) as being anticipated by Schiek et al., U.S. Patent No. 4,982,164 (hereinafter 'Schiek et al.'). Applicant respectfully traverses the rejection on the grounds that the Examiner failed to establish and support a *prima facie* case of anticipation with respect to Schiek et al. In particular, Applicant submits that the Examiner has failed to show that Schiek et al. disclose, explicitly or implicitly, "each element of the claim under consideration" (*W.L. Gore & Associates v. Garlock*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983)) and/or that Schiek et al. disclose the claimed elements "arranged as in the claim" (*Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984)), both as required by the Federal Circuit for *prima facie* anticipation under 35 U.S.C. 102.

Regarding Claim 1, the Examiner contended, "Schiek teaches a method for determining a parameter value (scattering parameter) for a set of calibration standards (the first, second, third calibrations standards). The Examiner referred to Schiek et al., Col. 2, line 34 through Col. 4, line 68. The Examiner further contended, "[t]he method [of Schiek et al.] includes employing measurements of an asymmetric reciprocal device (the third calibration standard) ... to optimize a parameter value (the error parameters of the network analyzer) of a defining parameter of the set calibration standards [sic]". The Examiner referenced Schiek et al., Col. 3, lines 19-30, lines 65-68, and Col. 9, lines 40-53 in support of the contention.

Regarding Claim 18, the Examiner contended, "Schiek teaches a method of compensating a calibration of a vector network analyzer ... includes optimizing error coefficients (see Schiek, column 4, lines 64-65, error parameters) of an error model of the vector network analyzer using measurements of an asymmetric reciprocal device ...". The Examiner alleged that Schiek et al., Col. 3, lines 19-23 and Col. 4, lines 56-68 further supported the contention.

Contrary to the Examiner's contentions, Schiek et al. fail to disclose that recited in either Applicant's Claim 1 or Claim 18. For example, Schiek et al. do not disclose a "multiport network analyzer" recited in Applicant's Claim 1 and defined in Applicant's specification as having more than two test ports. (see Applicant's specification, Page 5, line 31 to Page 6, line 8). Similarly, Schiek et al. fail to disclose

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"a multiport vector network analyzer having *more* than two test ports", as recited in Applicant's Claim 18 (*emphasis* added).

Instead, Schiek et al. explicitly and exclusively disclose a two-port network analyzer. Specifically, at Col. 1, lines 10-11, Schiek et al. disclose, "[a] network analyzer comprises *two test ports*" (*emphasis* added). Furthermore, as would be readily apparent to the skilled artisan, Schiek et al. only illustrate a VNA having two ports (see Schiek et al, FIG 1). Moreover, as presented in the disclosure of Schiek et al., *all* of the equations are consistent with, and can only be interpreted as pertaining to, measurements using a two-port VNA. For example, the only subscripts appearing in any of the equations presented by Schiek et al. are those for a two port network (e.g., S_{11} , S_{12} , S_{21} , S_{22}). Thus, Schiek et al. clearly do not disclose a multiport vector network analyzer having *more* than two test ports, as claimed by Applicant.

Additionally, Schiek et al. fail to disclose employing measurements of 'an asymmetric reciprocal device', contrary to the Examiner's contention. Schiek et al. do not even disclose an 'asymmetric reciprocal device' which, as defined by Applicant, is *both* asymmetric *and* reciprocal. (See Applicant's specification, Page 5, line 24-30; Page 9, line 15 to Page 10, line 30).

Instead, at Col. 3, lines 19-23, relied upon in part by the Examiner, Schiek et al. disclose that, "[t]he third calibration standard need not necessarily be a symmetrical two-port circuit; it is quite possible to use an asymmetrical two-port circuit of which, however, one reflection parameter S_{11} or S_{22} ... would have to be known". No mention is made by Schiek et al. of the reciprocity or lack thereof of the third calibration standard when an asymmetrical two-port circuit is employed. Thus, while suggesting that an "asymmetrical two-port circuit" may be employed as the third calibration standard, Schiek et al. do not disclose that when the third calibration standard is asymmetric, the third calibration standard is also reciprocal.

At Col. 9, lines 40-53, relied upon by the Examiner, Schiek et al. mention that a "reciprocal calibration standard" may be used in conjunction with their method. However, Schiek et al. do not disclose whether or not the 'reciprocal calibration standard' is or could be the third calibration standard. Similarly, Schiek et al. never discuss or suggest that the reciprocal calibration standard is or may be concomitantly asymmetric as well as reciprocal (i.e., *both* asymmetric *and* reciprocal).

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At Col. 3, lines 65-68, also relied upon by the Examiner, Schiek et al. disclose neither 'reciprocity' nor 'asymmetry' when discussing the third calibration standard. In fact, nowhere do Schiek et al. explicitly or implicitly disclose a device that is *both* asymmetric *and* reciprocal. Thus, contrary to the Examiner's contention, Schiek et al. do not disclose an "asymmetric reciprocal device", as claimed by Applicant. Moreover, Schiek et al. do not and cannot disclose, or even suggest, using such an "asymmetrical reciprocal device" for any purpose including, but not limited to, that recited in Applicant's Claims 1 and 18.

Contrary to the Examiner's contention, Schiek et al. also fail to disclose or suggest, "employing measurements of an asymmetric reciprocal device made with the multiport vector network analyzer to *optimize* a parameter value of a defining parameter of the set of calibration standards", as defined by Applicant's specification and recited in Applicant's Claim 1. Similarly, Schiek et al. do not disclose, "optimizing error coefficients of an error model of the multiport vector network analyzer using measurements of an asymmetric reciprocal device", as recited in Applicant's Claim 18.

Instead, Schiek et al. present a set of closed form expressions that facilitate express determination or calculation of error parameters of the vector network analyzer given calibration standards having some unknown S-parameters (see Schiek et al., Col. 5 line 40 through Col. 13, line 37). As such, Schiek et al. essentially teach performing sufficient measurements of specific calibration standards to explicitly *compute* (i.e., as opposed to *optimize*) the error parameters in a manner analogous to conventional standards-based calibration. No 'optimization' or 'optimizing', as defined by Applicant's specification, is employed or suggested by Schiek et al. (see for example, Applicant's specification, Page 15, line 30, through Page 17, line 16). Moreover, the skilled artisan, given Applicant's specification and the definitions therein, would not confuse the explicit computing or calculating with closed form expressions of Schiek et al. with 'optimizing' as claimed by Applicant.

It is well established that, to establish a *prima facie* case of anticipation, the Examiner *must* demonstrate that there is essentially no difference "between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention." *Scripps Clinic & Research Found. v. Genentech Inc.*, 927 F.2d 1565, 18 USPQ 2d 1001, 1010 (Fed. Cir. 1991). In particular, "[t]he

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identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). From MPEP 2131. Furthermore, the Examiner may not "resort to speculation, unfounded assumptions or hindsight reconstruction to supply deficiencies in its factual basis." *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied 389 U.S. 1057 (1998).

The disclosure of Schiek et al., at least lacking as it does any reference, explicit or implicit, to a "multiport vector network analyzer" having "more than two ports" and an "asymmetric reciprocal device" (i.e., a device that is concomitantly BOTH asymmetric AND reciprocal) precludes a finding by the Examiner of a *prima facie* case of anticipation. Without such a disclosure by Schiek et al., the rejection of Claims 1 and 18 under 35 U.S.C. 102(b) in view of Schiek et al. is defeated.

That notwithstanding, Schiek et al. further lack either explicit or implicit disclosure of 'to optimize' or 'optimizing', as defined and variously claimed by Applicant. The disclosure by Schiek et al. of 'calculating' is clearly distinguished from 'to optimize' or 'optimizing', as used and claimed by Applicant.

Applicant respectfully reminds the Examiner that, as stated in the MPEP §2173.01, "[a] *fundamental* principle contained in 35 U.S.C. 112, second paragraph is that applicants are their own lexicographers. They can define in the claims what they regard as their invention essentially in whatever terms they choose *so long as any special meaning assigned to a term is clearly set forth in the specification*" (*emphasis is added*). Furthermore, "[w]here an *explicit definition is provided* by the applicant for a term, that definition *will control interpretation* of the term as it is used in the claim. *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999) (*emphasis added*)". MPEP, 2111.01 *Plain Meaning*, Part III. Thus, the Examiner is *obliged* to employ Applicant's definitions of claim terms (e.g., multiport vector network analyzer, asymmetric reciprocal device, and optimizing) when an explicit definition is provided pursuant to Applicant's right to be his/her own lexicographer.

Hence, Applicant respectfully submits that the Examiner has failed to establish *prima facie* anticipation by Schiek et al. of Claims 1 and 18. The Examiner must withdraw the unsupported rejection of Claims 1 and 18 under 35 U.S.C. 102(b) with respect to Schiek et al. for at least the reasons set forth hereinabove.

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The Examiner rejected Claims 2, 8, 9, 19, 23, 28-30, 32 and 34 under 35 U.S.C. 103(a) as being unpatentable over Schiek et al. in view of Ferrero et al., "Comparison Between a Vector Multi-port Network Analyzer and the National S-Parameter Measurement", Precision Electromagnetic Measurement Conf. Digest, 1994, pp. 143-144 (hereinafter 'Ferrero et al.').

Regarding Claim 2, the Examiner acknowledged that Schiek et al., "does not provide that the [alleged] asymmetric reciprocal device has a number of ports greater than or equal to a number of test ports ...". The Examiner contended, "Ferrero discloses an equal number of device ports are equal [*sic*] to the number of multi-port network analyzer (VNA or NWA)". The Examiner concluded that it would have been obvious, "to modify the [alleged] asymmetric reciprocal device taught in Schiek and incorporate an equal number of ports with the VNA in order to establish the required standard values because the measurement of the calibration provides a logical test where its capability is adopted as a standard measurement system" citing Ferrero, page 143, last paragraph.

Regarding Claims 8 and 9, the Examiner acknowledged that Schiek et al., "does not provide a known defining parameters [*sic*] and single thru standard of the set of calibration [*sic*]"'. The Examiner contended, "Ferrero teaches a 3-port test set calibration method than [*sic*] includes three single thru connections and one sliding load at port 1 (a known defining parameter)", referring to Ferrero et al., Page 143, paragraph 5. The Examiner concluded that it would have been obvious, "to modify the calibration standard used to calibrate a vector network analyzer ... as noted in Schiek with a known 3-port test set calibration method [of Ferrero et al.] ... because the test arrangement would provide the user to [*sic*] reduce the random noise and minimize the frequency error", citing Ferrero et al., Page 143, 2nd Col., 2nd paragraph.

Regarding Claim 19, the Examiner used a similar rationale as was used for Claims 8 and 9.

Regarding Claim 23, the Examiner contended, "Schiek teaches performing calibrated measurements on a device under test or test item ... using the optimized error coefficients or error parameters" referring to Schiek et al., Col. 4, lines 64-65. The Examiner neglected to refer to Ferrero et al. in rejecting Claim 23 thus implying that Claim 23 was rejected in exclusion of the teachings of Ferrero et al..

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Regarding Claim 28, the Examiner contended, "Schiek in combination with Ferrero et al. teaches [*sic*] a multi-port vector network analyzer". The Examiner further contended, "[t]he analysis includes a calibration compensator ... the calibration compensator comprising a measurement of an asymmetric reciprocal device (the third calibration standard)".

Regarding Claims 29, 30 and 34, the Examiner contended, "Schiek in combination with Ferrero teaches [*sic*] a multipoint [*sic*] vector network analyzer that compensates for inaccuracies in knowledge of a parameter value ..." wherein a computer program, "comprises instruction that compensates a calibration of the vector network analyzer (VNA) using measurements of the asymmetric reciprocal device (third calibration standard)".

Regarding Claim 32, the Examiner contended, "Schiek in combination with Ferrero teaches [*sic*] a vector network analyzer" that "compensates for inaccuracies in knowledge of a parameter value". In particular, the Examiner contended that the combination of Schiek et al. and Ferrero et al. disclose the VNA being, "temporarily connected to an [alleged] asymmetric reciprocal device or the third calibration standard", of Schiek et al. No further motivation to combine or modify the references was provided.

Applicant respectfully traverses the rejection on the grounds that the Examiner has failed to establish and properly support a *prima facie* case of obviousness with respect to Schiek et al. in view of Ferrero et al. Specifically, the Examiner failed to show with respect to the rejected claims one or more of 1) "some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings"; 2) "a reasonable expectation of success" in modifying or combining the teachings of the references; and 3) that the prior art references "teach or suggest all the claim limitations", as required by the courts. MPEP, Section 2142, *Establishing a Prima Facie Case of Obviousness*. Moreover, the Examiner did not establish that the teaching or suggestion to make the claimed combination and the reasonable expectation of success are both "found in the prior art, and *not* based on applicant's disclosure". *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir.1991) (*emphasis added*). In short, the Examiner's reasons for rejecting Claims 2, 8, 9, 19, 23, 28-30, 32 and 34 respectfully fail to meet even the minimum requirements

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necessary for establishing and maintaining *prima facie* obviousness with respect to Schiek et al. in view of Ferrero et al.

As is clearly stated in the MPEP, “[o]bviousness can *only* be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation *to do so* found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art” (*emphasis added*). MPEP §2143.01 *Suggestion or Motivation to Modify the References*. Additionally, according to the Federal Circuit, “‘teachings of references can be combined only if there is some suggestion or incentive to do so’” (*emphasis in original*). *In re Fine*, 837, F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) (quoting *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984)). “[T]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art *also suggests the desirability* of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)” (*emphasis added*). MPEP §2143.01, cited *supra*. For a motivation to combine/modify to be legitimate and therefore, be employed to support a *prima facie* case of obviousness, there must be “evidence that ‘a skilled artisan, *confronted with the same problems as the inventor* and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed’”. *Ecolchem, Inc. v. Southern Calif. Edison Co.*, 227 F.3d 1361, 1375, 56 USPQ2d 1065, 1075 (Fed. Cir. 2000) (quoting *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998)) (*emphasis is added*). “[E]ven when the level of skill in the art is high, the Board [or the Examiner] must identify specifically the principle, known to one of ordinary skill, which suggests the claimed combination. In other words, the Board [or the Examiner] must *explain the reasons* one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious” (*emphasis added*). *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998).

Thus, for a motivation to be legitimate, there *must be a finding* that a ‘teaching, suggestion, or motivation’ to combine *exists*. There *must be objective evidence of record* from the prior art in light of the motivation both to support the Examiner’s selection of the particular references and to support combining the elements or

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teaching thereof as proposed by the Examiner. The Examiner *is required by way of reasoned explanation to specifically identify the principle* known by the skilled artisan *'that suggests the claimed combination'*. The Examiner may not simply dispense with providing such evidence and reasoning in presenting the motivation to combine. Moreover, in addition to providing evidence from the prior art to support selecting and combining, the Examiner is *required* to establish and provide *evidence* to support the *desirability* of the combination in light of the *problem or problems* that faced *the inventor*.

Regarding combining and modifying the disclosure of Schiek et al. with that of Ferrero et al., the Examiner's motivation with respect to Claim 2 was, "in order to establish all the required standard values because the measurement or the calibration provides a logical test where its capability is adopted as a standard measurement system", citing Ferrero et al., page 143, last paragraph for support of this motivation. The Examiner's motivation with respect to Claims 8 and 9 (and possibly Claim 19) was "because the test arrangement [of the Examiner's proposed combination] would provide the user to [sic] reduce the random noise and minimize the frequency error", citing Ferrero et al., page 143, second column, second paragraph for support of this motivation. No further suggestion or motivation to combine and modify the disclosures of Schiek et al. and Ferrero et al. ('the references') was provided by the Examiner.

The Examiner's motivation with respect to either Claim 2 or Claims 8-9 is not actually a suggestion or motivation to combine the references that is found in the references themselves. Ferrero et al. generally disclose a new calibration concept for a multiport vector network analyzer as it compares to "the 2-port S-parameter National measurement system at IENGf" (Abstract of Ferrero et al.). More specifically, in the last paragraph of Page 143, relied upon by the Examiner for the motivation for Claim 2, Ferrero et al. disclose that the work, "devoted to the metrological qualification of a 3-port test-set, demonstrates the possibility to open a new class of multiport S-parameter metrological test sets and its capability to be adopted as a standard measurement system". However, nothing in the disclosure of Ferrero et al. corresponds to or even implies the Examiner's motivation for modifying a device taught by Schiek et al. to incorporate an equal number of ports with the VNA. Moreover, nowhere do Ferrero et al. provide support for the Examiner's

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contention that the skilled artisan would be motivated to do so, "because the measurement or the calibration provides a logical test where its capability is adopted as a standard measurement system", contrary to the Examiner's contention. Ferrero et al. merely suggest a possibility that the disclosed 3-port test-set may be capable of being adopted as a standard measurement system. Regarding the Examiner's motivation associated with Claims 8 and 9, Ferrero et al. similarly do not provide support for the respective motivation. Instead, at Page 143, 2nd Col., 1st and 2nd paragraphs, Ferrero et al. disclose that in establishing the National S-parameter Measurement System, "[t]he National Laboratory adopted" a measurement procedure in which, "random noise was reduced by an averaging factor of 1024" and "the driving source was configured in step mode to minimize the frequency error". Ferrero et al. further disclose, "[a] similar procedure was adopted for the measurements carried out with the 3-port system" (Ferrero et al., Col. 2, 2nd paragraph, lines 1-2). As such, Ferrero et al. do not disclose a test arrangement involving a 3-port test set calibration method that may, "reduce noise and minimize the frequency error", as suggested by the Examiner. On the contrary, Ferrero et al. merely disclose aspects of how the measurements were carried out and that those aspects were consistent with procedures adopted by the National Laboratory. Thus, a motivation to combine and modify Schiek et al. and Ferrero et al. is clearly not found 'in the references themselves', contrary to the Examiner's apparent contention.

The Examiner provided *no extrinsic evidence to support* a contention that a teaching, suggestion, or motivation *not found explicitly* in the cited references was *either present implicitly* in that taught by the references (which in this instance, clearly it is not) *or was in the knowledge generally available to one of ordinary skill in the art*. Specifically, *the Examiner cited nothing* (i.e., no extrinsic evidence) beyond the references themselves in support of the Examiner's motivation. Therefore, the Examiner is not relying on implicit teachings or general knowledge of the skilled artisan. Hence, the Examiner respectfully cannot contend that the Examiner's motivation regarding Schiek et al. and Ferrero et al. are "found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art", as required by the courts to support *prima facie* obviousness. *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000).

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In addition, the Examiner's motivation lacks that necessary to qualify as a legitimate or supported motivation to combine and modify according to the courts, regardless of a possible source of the motivation. In particular, the Examiner offered no explanation regarding how the proposed motivation would lead the skilled artisan to select and combine the references as relied upon for the subject rejection. No explanation is presented regarding "the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them [thereby rendering] the claimed invention obvious". *In re Rouffet*, cited *supra*. In short, the Examiner's motivation fails to address *why* a skilled artisan, *without* knowledge or benefit of Applicant's teachings, would make the *specific choice* to combine Schiek et al. and Ferrero et al. as opposed to some other combination of references. In addition, the Examiner's motivation provides no insight into why one skilled in the art would have found it obvious to make the particular and specific modification of the relevant teachings of Schiek et al. and Ferrero et al. that the Examiner suggests. Thus, the Examiner's motivation fails to address *why* the skilled artisan would have been motivated to combine/modify Schiek et al. and Ferrero et al.

Moreover, the Examiner failed to establish, or for that matter, even attempt to establish, that the prior art or the skilled artisan with *no knowledge of the claimed invention* would have: (a) recognized the desirability of the combination/modification proposed by the Examiner, or (b) selected the specific elements from the cited prior art references for combination/modification, as suggested by the Examiner, when confronted with the same problem faced by the inventor. In fact, the Examiner did not explicitly or implicitly consider the problem(s) faced by the inventor as motivation for the combination/modification proposed by the Examiner. Similarly, the Examiner has not identified specifically the principle of or explained the reasons why the skilled artisan would have been motivated to select and combine the references. *In re Rouffet*, cited *supra*. Hence, the Examiner simply has not provided a legitimate motivation to combine the cited references in support of a *prima facie* case of obviousness.

An absence of a legitimate or supported motivation to combine Schiek et al. and Ferrero et al., in and of itself, is sufficient to defeat a *prima facie* case of obviousness with respect to at least Claims 2, 8, 9, 19, 23, 28-30, 32 and 34. Furthermore, given the lack of a supported motivation to combine the respective references, *any*

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consideration regarding what the respective combination may or may not disclose is moot.

Notwithstanding the lack of a supported, legitimate motivation to combine/modify, the combination of Schiek et al. and Ferrero et al. further fails to disclose or suggest **all** of the claim limitations of at least Claims 2, 8, 9, 19, 23, 28-30, 32 and 34. Claims 2, 8, 9, 19, 23, 30 and 34 are ultimately dependent from and include all of the limitations of respective ones of Claim 1, 18, 28, 29 and 32. The combination of Schiek et al. and Ferrero et al. at least fails to disclose all of the limitations of base Claims 1, 18, 28, 29 and 32. For example, the combination of Schiek et al. and Ferrero et al. at least fail to disclose, an asymmetric reciprocal device (i.e., a device that is concomitantly **both** asymmetric **and** reciprocal), contrary to that contended by the Examiner, and the use of such a device, as variously recited in Applicant's Claims 1, 18, 28, 29 and 32. Similarly, the combined references at least fail to disclose or suggest 'optimizing' or using optimization, as variously recited in Applicant's Claims 1, 18, 28, 29, and 32. As such, the combination of Schiek et al. and Ferrero et al. do not disclose or suggest **all** of the claim limitations of Claims 2, 8, 9, 19, 23, 28-30, 32 and 34, as required by the courts for establishing and supporting *prima facie* obviousness. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). As with a failure to provide a legitimate motivation to combine, a failure by the combined references to disclose or suggest all of the limitations of Claims 2, 8, 9, 19, 23, 28-30, 32 and 34 further defeats *prima facie* obviousness. *In re Royka*, cited *supra*.

At least for failing to provide a legitimate motivation to combine/modify, or for failing to establish that all of the limitations of the rejected claims are disclosed or suggested, the Examiner's rejection under 35 U.S.C. 103(a) lacks proper support for a *prima facie* case of obviousness according to the courts. Thus, the rejection of Claims 2, 8, 9, 19, 23, 28-30, 32 and 34 under 35 U.S.C. 103(a) by Schiek et al. in view of Ferrero et al. must be withdrawn for lack of support.

Applicant notes that while indicated as rejected in the Office Action Summary, no grounds for rejecting Claim 11 are provided by the Examiner. Without grounds for rejection, Applicant cannot respond to the rejection of Claim 11. Applicant respectfully requests that the Examiner either provide in writing specific grounds for

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rejecting Claim 11 along with proper *prima facie* support for the rejection or acknowledge in writing that Claim 11 is allowable.

Applicant appreciates the Examiner's acknowledgement of the allowability of Claims 25, 26, 31 and 35 if re-written in independent form. However, in light of the arguments presented above regarding Claims 24, 29 and 32, from which Claims 25, 26, 31 and 35 are respectively dependent, Applicant respectfully declines to re-write the claims at this time and respectfully requests reconsideration.

In summary, Claims 1-35 are pending. Claims 1-24, 27-30, 32, 33 and 34 were rejected and Claims 25, 26, 31 and 35 were objected to. As detailed hereinabove, Claims 1-24, 27-30, 32, 33 and 34, along with Claims 25, 26, 31 and 35, are in condition for allowance. It is respectfully requested that Claims 1-35 be allowed, and that the application be passed to issue at an early date.


Should the Examiner's action be other than allowance, the undersigned respectfully requests a telephone call from the Examiner to discuss further consideration that would expedite the prosecution of the application. Moreover, should the Examiner have any questions regarding the above, please contact the undersigned, J. Michael Johnson, telephone number (775) 849-3085, or John L. Imperato, Attorney for Applicant, Registration No. 40,026 at Agilent Technologies, Inc., telephone number (650) 485-5511.

Respectfully submitted,
TIBERIU JAMNEALA ET AL.

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CERTIFICATE OF TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office on the date shown below.


J. Michael Johnson
Date 2/17/06

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